

REMARKS

Claims 1-28 and 34 are cancelled; thus, claims 29-33 and 35-56 are all the claims pending in the application. Claims 1-56 stand rejected on prior art grounds. Claims 44 and 50 stand rejected upon informalities. The specification and drawings are objected to. Applicants respectfully traverse these rejections based on the following discussion.

I. The 35 U.S.C. §112, First Paragraph, Rejection

Claims 44 and 50 stand rejected under 35 U.S.C. §112, first paragraph. More specifically, the Office Action argues that in regards to claims 44 and 50, “actions that may or may not be done is indefinite”. Applicants have amended claims 30, 44, 50, and 55 to replace “can be” with “are”. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

II. The Prior Art Rejections

Claims 29-34, 37-38, 40, 43-45, and 47-56 stand rejected under 35 U.S.C. §102(e) as being anticipated by Honarvar, et al. (U.S. Patent No. 6,321,206), hereinafter referred to as Honarvar. Claims 35-36, 39-42, 46, and 52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Honarvar, in view of Ulwick, et al. (U.S. Patent No. 6,115,691), hereinafter referred to as Ulwick. Applicants respectfully traverse these rejections based on the following discussion.

The claimed invention provides a method, system and computer program product for dynamically developing an optimal marketing strategy is disclosed. The method first

optimizes the marketing strategy on the basis of customer responses and preferences. The history of customer response for the strategy, or for other similar strategies, is used in this step. Reinforcement learning in constrained domains is then used to further optimize the strategy. The constraints imposed in this step are attributed to multiple marketing channels, which are used to deploy the strategies. The constraints include the cost and the effectiveness of the marketing channel and the customer preferences for the marketing channel. The optimized strategy is then deployed, and the customer response is recorded. The method is executed repeatedly for a specified duration.

In the rejection, the Office Action argues that the prior art of record discloses many features of the claimed invention. However, nothing within Honarvar teaches or suggests partitioning customers based on “a historic policy, actual rewards, and transition probabilities from one data point to another” as claimed (independent claims 29, 43, 49, 55, and 56). Instead, Honarvar merely discloses grouping customers based on age, residential/business, value, and attrition. Therefore, as explained in greater detail below, Applicants respectfully submit that the prior art of record does not teach or suggest the claimed invention.

Applicants traverse the rejections because the prior art of record fails to teach or suggest the claimed features of “partitioning said customers into partitions based on ... a historic policy, actual rewards, and transition probabilities from one data point to another”. Such features are defined in independent claims 29, 43, 49, 55, and 56 using identical language.

More specifically, as described in paragraph 0101 of Applicants' disclosure, the embodiments of the invention draw an arbitrary separating hyperplane on the data space S' that partitions the space into $S'.sub.1$ and $S'.sub.2$. Now consider the segment, which has large variance across the data points with respect to the estimated value V ($\pi^{sup.H}$), where $\pi^{sup.H}$ is the historic policy adopted. Based on the historic policy, the actual rewards, the transition probabilities from one data point to another, a model is constructed to compute the value at all the data points. This segment say $S'.sub.1$ is further segmented into two sub-partitions using the least square estimation.

To the contrary, nothing within Honarvar, including the portions cited by the Office Action, teaches or suggests partitioning customers based on “a historic policy, actual rewards, and transition probabilities from one data point to another” as claimed (independent claims 29, 43, 49, 55, and 56). Instead, Honarvar merely discloses grouping customers based on age (col. 5, para. 4) and residential/business (col. 8, para. 1), value, and attrition (col. 10, para. 4). Accordingly, Applicants submit that the prior art of record fails to teach or suggest the claimed features of “partitioning said customers into partitions based on ... a historic policy, actual rewards, and transition probabilities from one data point to another” as defined in independent claims 29, 43, 49, 55, and 56.

Therefore, it is Applicants' position that the prior art of record does not teach or suggest many features defined by independent claims 29, 43, 49, 55, 56 and that such claims are patentable over the prior art of record. Further, it is Applicants' position that dependent claims 30-33, 35-42, 44-48, and 50-54 are similarly patentable, not only because of their dependency from a patentable independent claims, but also because of

the additional features of the invention they defined. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

II. Formal Matters and Conclusion

In view of the foregoing, Applicants submit that claims 29-33 and 35-56, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0441.

Respectfully submitted,

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